AMENDMENT TO THE DRAWINGS

Please amend FIGS. 1 and 2 as shown in the enclosed Replacement Sheets.

REMARKS

This Amendment is in response to the Office Action dated June 19, 2006 in which claims 1-9 were pending and claims 10-18 were withdrawn as being directed to non-elected inventions. Claims 1 and 5 were initially rejected ,and claims 2-4 and 6-9 were indicated as being directed to allowable subject matter.

Applicants would like to thank the Examiner for the indicated allowability of claims 2-4 and 6-9 and respectfully request reconsideration and allowance of rejected claims 1 and 5 in view of the above-amendments and the following remarks.

I. DRAWINGS

Enclosed herewith are two replacement sheets in which FIGS. 1 and 2 are labeled as "Prior Art" as suggested in the Office Action. Accordingly, Applicants respectfully request that the objections to FIGS. 1 and 2 be withdrawn.

II. SPECIFICATION

The Office Action suggested that the word "in" on page 1, line 26 should be capitalized. However, this word appears in the middle of a sentence and should therefore appear in lowercase. Applicants reviewed the copy of the specification on the USPTO Public PAIR database and noticed a photocopy mark appearing before the word "in". This photocopy mark resembles a period. Accordingly, Applicants submit herewith a new, clean version of the paragraph with no photocopy mark.

III. CLAIM REJECTIONS UNDER §112

Claims 1 and 5 were rejected under §112, second paragraph as being indefinite. With this Amendment, claims 1 and 5 are amended to clarify the terminology. None of the clarifying amendments are made in view of any prior art references.

With respect to the Examiner's comments regarding claim 1, the "first p/2 group of the modules" has been rephrased to read, "first group of p/2 of the modules" to reflect that the term p/2 is a number of the modules, which corresponds to the value of p/2. Similarly, the "second p/2 group of the modules" has been rephrased to read, "second group of p/2 of the modules".

With respect to the "n inputs", claim 1 is amended to provide antecedent basis for the "n inputs".

With respect to the phrase "a respective permutation", Applicants believe that this phrase is sufficiently definite but have re-worded the last paragraph of claim 1 to be more clear. The last paragraph now reads, "a memory containing a plurality of control bit tables each containing a plurality of control bits in an arrangement based on a respective permutation." This wording clearly indicates that each control bit table has an arrangement of control bits that correspond to a respective permutation.

The claim further reads, "the memory being responsive to the selected permutation [introduced in the preamble in claim 1] to supply the plurality of control bits of the control bit table that corresponds to the selected permutation to the control inputs of respective ones of the modules." Thus, each control bit or group of control bits is applied to the control input of a respective module. The control bits are supplied by the control bit table that corresponds to the selected permutation.

Accordingly, independent claim 1 is now believed to be sufficiently clear and definite under 35 U.S.C. §112, second paragraph.

Independent claim 5 is similarly amended to clarify the terminology of the first and second groups of p/2 modules and to rephrase the permutation selection device element such that it reads more clearly. Claim 5 is now also believed to be in sufficiently definite.

Corresponding amendments have been made to dependent claims 2, 3, 6 and 7.

Applicants respectfully request that the rejection under §112, second paragraph, be withdrawn.

IV. CLAIM REJECTIONS UNDER §103

Claims 1 and 5 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Gatherer et al. U.S. Patent No. 6,603,412 further in view of the cited Savage reference.

The Office Action acknowledges that Gatherer et al. fail to disclose a plurality of modules wherein each module has first and second inputs and first and second outputs as recited

in claims 1 and 5. However, the Office Action concludes it would have been obvious to use multiple modules within the teaching of Gatherer et al. based on the disclosure of Savage.

The Gatherer et al. reference discloses an interleaved coder and method. A first major point of distinction is that Gatherer et al. describe a "quasi-parallel read/write interleaver architecture" (See, e.g., Abstract), whereas the inventions recited in claims 1 and 5 provide true parallel data processing.

Further, Gatherer et al. provide no teaching or suggestion of using a routing multiplexer system comprising a plurality of modules and a plurality of control bit tables as recited in claims 1 and 5. Moreover, Gatherer et al. do not provide any mechanism for changing permutations and do not suggest that such a feature could or should be added in an iterative turbo decoder. In contrast, Gatherer et al. clearly indicate that they use address contention for initiating the next data subblock. The inventions recited in claims 1 and 5 allow changes in data permutations and access to memories dynamically and on the fly using control signals applied to the modules' control inputs.

Likewise, the Savage reference provides no teaching or suggestion of using a routing multiplexer system comprising a plurality of modules and a plurality of control bit tables for interleaving data in a turbo decoder. In contrast to the Office Action, the Savage reference does not constitute analogous art. As stated in Section 7.8 on page 309, the Savage reference is directed to the design of network routers having the task of transmitting messages among processors via nodes of a network. Network routing has nothing to do with interleavers for permuting data in a turbo decoder. A person of ordinary skill in the art would therefore not look to a network router when designing a parallel turbo decoder.

Further, the Savage reference does not disclose the arrangement of control bits and control bit tables recited in claims 1 and 5.

In any case, the Savage reference provides no teaching or suggestion that its permutation network could be adapted for use in a turbo code interleaver such as that shown by Gatherer et al.

Although Savage states at the top of page 311 that a network routing permutation can be computed more quickly with the Benes offline permutation network, Savage also state near the bottom of page 311 that such a global permutation network in a network routing application requires switch settings that must be computed and distributed globally, which imposes important limitations on the time to realize particular permutations. Further, these characteristics appear to be directed to the application of network routing. Thus, these statements also provide no motivation for using a routing multiplexer system comprising a plurality of modules and a plurality of control bit tables for interleaving data in a turbo code interleaver.

Therefore, it would not have been obvious for a person of ordinary skill in the art to combine the teachings of Savage and Gatherer et al. since neither reference teaches or suggests the combination or provides a suitable motivation to combine. Also, even if the references where combined as suggested in the Office Action, the resulting combination would still fail to teach or suggest all of the limitations of independent claims 1 and 5.

Accordingly, Applicants respectfully request that the rejection of claims 1 and 5 under §103(a) based on Gatherer et al. and the Savage reference be withdrawn.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 12-2252.

Respectfully submitted,

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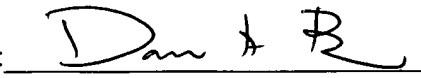
By: 

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